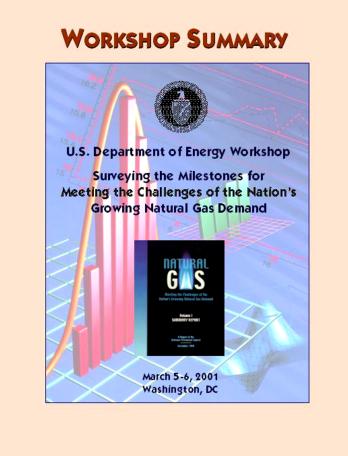
# U.S. Department of Energy Workshop

Surveying the Milestones for Meeting the Challenges of the Nation's Growing Natural Gas Demand

March 5-6, 2001 Washington, D.C.



## NPC Natural Gas Report: Assumptions Roadmap

#### **Reference Case**

### **Sensitivity Cases**

- Resource Base
- Technology
- · Oil Price
- GDP
- Access

#### **Demand**

U.S. GDP Growth \*
U.S. Industrial Production Index
Canadian GDP Growth
Crude Oil Prices

Electricity Demand \*

New Powerplant Construction \*
Powerplant Fuel Switching Capability
Nuclear Plant Relicensing
Coal and Nuclear Capacity Utilization
Industrial and Residential/Commercial
Natural Gas Demand
Weather

#### **Supply**

Resource Base

Domestic Gas Production \*
Conventional, GOM, Unconventional
Wells and Footage Drilled
Imports and Exports
Canada, Mexico LNG

Technology Progress \*
Exploration Success
Drilling Efficiencies

Access to Resources \*
Financial Requirements

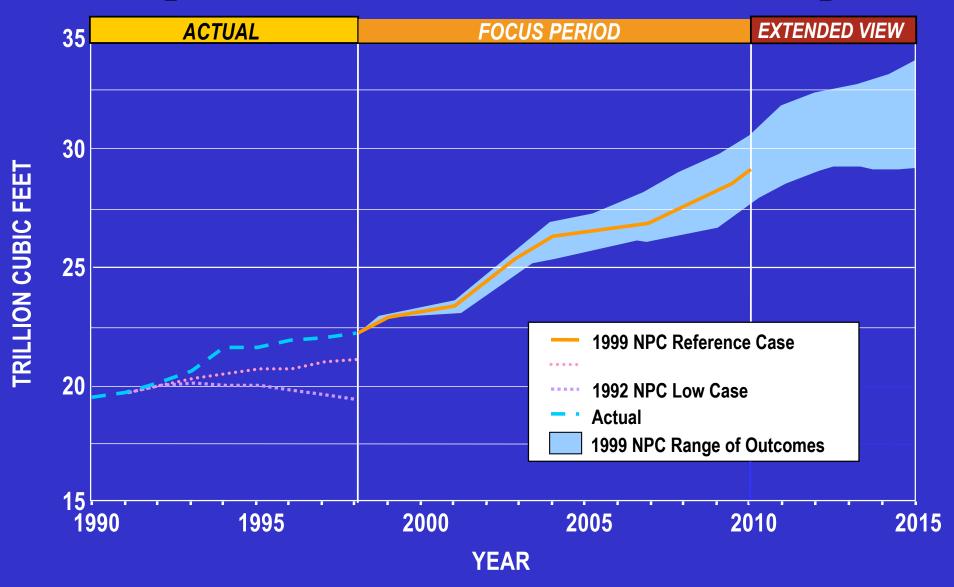
#### Transmission/Distribution

Major Projects Completed and Planned \*
Basis Differentials
LNG Imports
Frontier Pipeline Projects (Alaska,
NW Territories) \*

Pipeline Construction Costs \*
Gas Storage Costs
New Services
Access to Rights of Way
Financial Requirements

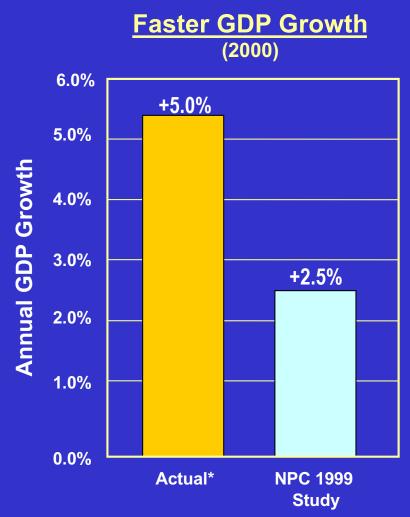


# U.S. Natural Gas Demand: Comparison of 1992 and 1999 NPC Reports



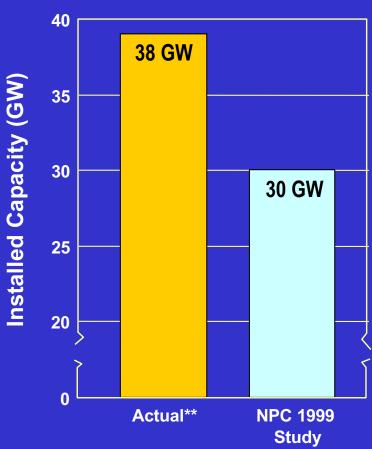
## **Factors Behind Increased Gas Demand**

### 2001 DOE Workshop



Electric Power Capacity (1998-2000)

**Increased Gas/Oil-Fired** 

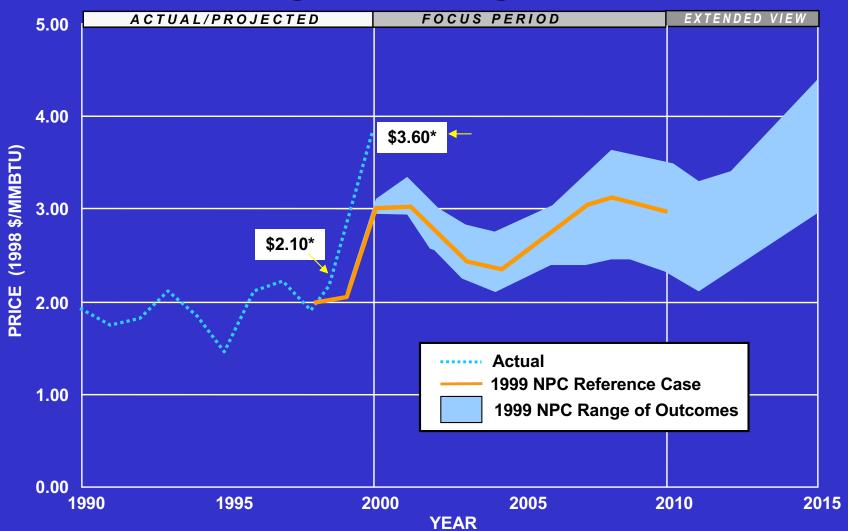


Natural gas for electricity -- 4 years ahead of NPC projection

<sup>\*</sup> EIA, Short Term Energy Outlook, Jan 2001.

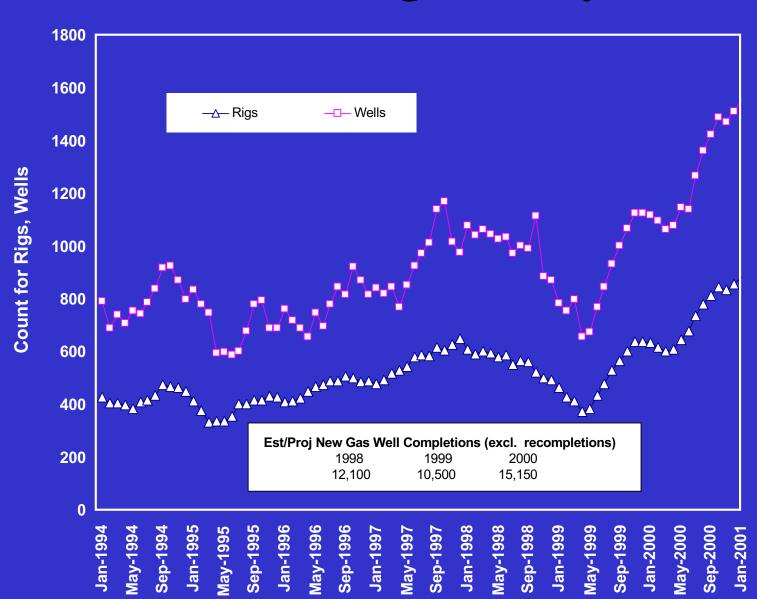
<sup>\*\*</sup> EEA

# Historical and Projected U.S.Natural Gas Prices Lower-48 Weighted Average Wellhead Price

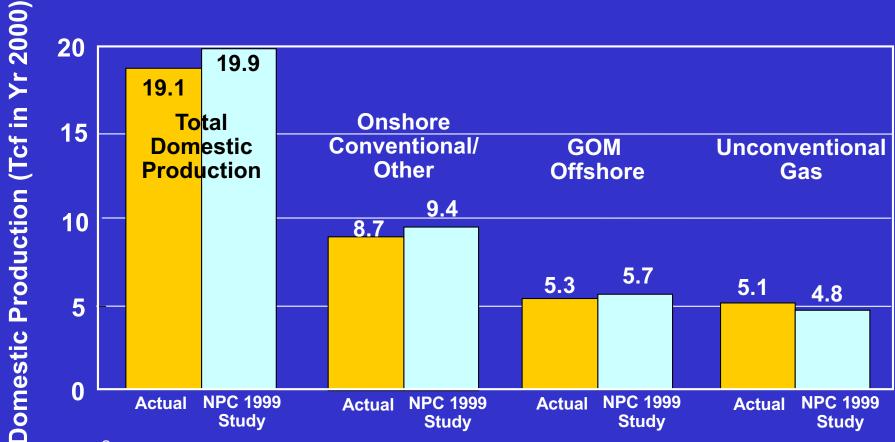


Prices are NOT intended to be a forecast. Seasonal factors such as abnormal weather and demand fluctuation have not been taken into account. \*Estimated Source: EIA Natural Gas Monthly, Jan 2001.

# U.S. Gas Drilling Activity Levels



# Domestic Gas Production for 2000 is Below Expectations, Except Unconventional Gas



#### Source:

- Total EIA Monthly Energy Review, Jan 2001 (0.4 Tcf of Difference Due to Calibration Differences, NPC vs EIA).
- Offshore ARI estimates.
- Unconventional ARI estimates.

# CRITICAL FACTORS

## 1999 NPC Report

- > Access
- Technology
- Financial Requirements
- Skilled Workers
- Rigs
- **Lead Times**
- **Requirements of New Customers**

2001 Workshop: Critical Factors and Recommendations -still valid, greater urgency

## POTENTIAL ENERGY POLICY ACTIONS

- > Improve interagency coordination
- Establish a national strategy for natural gas
- Review regulations and policies that may impact natural gas supply
- ➤ Increase access to resources and rights-of-way (Federal lands inventory, Sale 181, Destin Dome, OCS Bright Spots)
- > Streamline permitting and approval processes
- Consult with states (maintaining a national perspective)
- Maintain view of North American gas market and international sources of supply
- Encourage technology development
- Evaluate royalty relief and other financial incentives
- Monitor progress on critical factors